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AUTHOR Petersen, Anne C.; Ebata, Aaron T.
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ABSTRACT

Thos paper discusses myths about adolescent psychopathology, including the beliefs that psychopathology is a normal state in adolescence; that adolescents grow out of their psychopathology; and that with regard to psychopathology, adolescents are either like adults or like children. Key features of adolescent development are summarized, the life span developmental perspective is explained, and developmental changes in adolescence are considered in the areas of biological change, cognition, and psychological and social development. Context changes in adolescence are examined in the family, peer groups, schools, and society. Three categories of psychopathology in adolescence are presented as the most common examples: anxiety, depression, and conduct disorders. A model for the development of psychopathology in adolescence is discussed which integrates the evidence from adolescent development as well as psychopathology. Several key features in the development of adolescent psychopathology are considered. These include the individual's coping skills; the dangers of maladaptive, regressive coping styles; biological components of psychopathology; individual characteristics which may elicit psychopathology; eliciting factors of the social context; the cumulative process; risk and protective factors; and stressful life events. (NRB)

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Psychopathology in Adolescence: Does Development Play A Role?

Anne C. Petersen

and

Aaron T. Ebata

The Pennsylvania State University

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In our society, we hold contradictory beliefs about adolescent psychopathology. Some of these beliefs are myths, myths which have impeded adequate conceptualization about psychopathology in adolescence. We briefly discuss these myths and then summarize key features of adolescent development, including some examples of what we know about psychopathology during this phase of life. We then present a model for the development of psychopathology in adolescence, integrating the evidence from adolescent development as well as psychopathology.

Myths About Adolescent Psychopathology

Myth 1 - Psychopathology as a Normal State in Adolescence

The belief that psychopathology in adolescence is normative stems primarily from psychoanalytic theory (Blos, 1962; A. Freud, 1958). Psychoanalytic theory proposes that disturbance in adolescence, leading to neurotic or psychotic states, is created as a result of the effects of pubertal changes on impulses. These impulses, particularly sexual impulses, require greater separation and differentiation between child and parent. It is proposed that resolution of this developmental crisis is necessary for normal development to proceed. Furthermore, failure to resolve this developmental crisis, manifested in adolescent turmoil, leads to

repression of the conflict resulting in a re-emergence of the conflict later in life, typically in a "middle-life crisis" (Vaillant, 1977).

Several empirical studies involving non-clinical subjects (Douvan & Adelson, 1966; Grinker, Grinker, & Timberlake, 1962; Offer, 1969; Offer & Offer, 1975) have demonstrated that adolescence is not tumultuous for all young people. For example, Offer found three routes that depicted most adolescents with one route including about one-fourth of all adolescents whose development through this period was characterized as "continuous." Approximately one-third of the boys could be characterized as "surgent" (with progressions and regressions in development), whereas the remainder did experience significant tumult (the "tumultuous" route). If we extrapolate the results of this research to a population not selected for normality, we might expect to see about half of adolescents manifesting tumult, about one-fifth showing continuous development, and about one-fourth characterized by surgent growth. Presumably boys and girls show similar patterns although relevant data on girls are lacking. None of these longitudinal studies of adolescence has yet followed subjects into middle adulthood; but there is no evidence as yet that adolescents manifesting continuous growth inevitably experience a mid-life crisis.

Epidemiological research both in the United States and other countries suggests that approximately ten to twenty percent of youngsters in the adolescent age span manifest a diagnosable

disorder during these years (Graham, 1979). Variations in prevalence depend upon specific populations, age of the adolescents studied, and their gender (see reviews by Gould et al., 1981; Links, 1983).

Myth 2 - Adolescent Psychopathology is Something One "Grows Out Of"

This myth is actually a corollary of Myth 1. The view that psychopathology in adolescence was normative led to this second myth and the overuse of the diagnosis of adjustment disorders. The study by Weiner and DelGaudio (1976) as well as data from England (Rutter et al., 1976) show that adolescents with the diagnosis of adjustment disorder are just as likely to seek psychotherapy and be diagnosed as schizophrenic in young adulthood as those with more serious diagnoses during adolescence. The implication of this research is that we ought to take difficulties in adolescents as seriously as we would those seen in older age groups. At any age, however, we see temporary disorder due to specific stresses. The disorders seem to pass as either the stresses abate or the individual adapts favorable to the existence of the stress. These "good" outcomes appear, however, to require good characteristics, both in the individual and in the environment.

At the heart of this myth is the issue of continuity of behavioral disorders from adolescence into adulthood. Findings pertinent to continuity vary depending on the nature of the disorder and the criteria used to assess it. For example, Zeitlen (reported in Rutter, in press) found that most children in a hospital sample who were initially diagnosed as depressed were not

diagnosed as such when they were adults. When operational criteria based on symptomatology were used to classify the adults, however, 31 out of 37 cases met the criteria for depression.

There is consistent evidence that antisocial behavior and aggression (typically diagnosed as conduct disorders) often persist into adulthood (Robins, 1966, 1979) and that predictability from childhood through adolescence is increased with knowledge of age at onset of problems, frequency and severity of problems, and whether problem behavior is exhibited in multiple settings (Loeber, 1982). Early acting out behavior, however, is also associated with a wide range of adjustment problems later in life, including schizophrenia (Kohlberg et al., 1972; Robins, 1979). While there may not be isomorphism in behaviors reflecting particular syndromes of disorder, early adaptational difficulties may predict later ones.

Myth 3 - With Regard to Psychopathology, Adolescents are Like (a) Adults or (b) Children

Abnormal psychology texts must assume either a or b above because most of these include no discussion of adolescent psychopathology. To be fair, we have to clarify our definition of adolescence here. The definition usually used in our developmental work is that adolescence includes the phase of life beginning with puberty and extending until the individual takes on adult work and family roles. Since this span includes a variable interval for each individual, it's not likely to be so useful in the present discussion. For practical purposes here then it is perhaps more sensible to designate as adolescence the second decade of life.

Using this definition, early adolescence is more like childhood, and later adolescence is more like adulthood. Adolescence, in any case, is the transitional phase between childhood and adulthood. It involves developmental aspects distinct from either childhood or adulthood. There is a special nature of adolescence which warrants consideration with regard to many issues, particularly psychopathology.

The Special Nature of Adolescence

The Life Span Developmental Perspective

What makes adolescence distinctive? The common view of adolescent development, typically based on psychoanalytic theory, is too narrow. This focus is typically only on individual maturation. The life-span developmental view, affording greater explanatory power for developmental outcomes in adolescence, has three essential components (Baltes, 1968; Belsky, Lerner, & Spanier, 1984; Lerner, 1978). First, development is influenced by the contexts in which development takes place (Bronfenbrenner, 1979). The family environment of an individual is critically important to the developmental outcomes of the individual, but there are other important socializing contexts as well: the school and peer group being two of the most salient during childhood. Development is influenced not only by differences within each of these contexts, but also by differences in the connections between these contexts and with the broader society as well. Second, the interactions between individual and contexts involve reciprocal influences (Bell & Harper, 1977; Lerner & Spanier, 1979). These

influences are not simply from context (i.e., family) to individual. The individual is just as likely to influence the context (Lerner, 1982). For example, an adolescent with serious problems may have dramatic impact on his or her parents. Third, the life-span developmental view assumes that the continuous interactions between the individual and the various relevant social contexts are transactional (Sameroff, 1975). The social contexts, like the developing individual, may change over time and continuities or discontinuities in individual development are influenced by stability or change in the contexts of development.

What we are talking about then, is development as process. Among other things, this view of development also acknowledges that (1) there may be multiple pathways to particular outcomes, and conversely, to a range of outcomes given similar prior conditions (Ogbu, 1981); (2) that individuals are capable of change; and (3) that constructs of developmental interest may not be appropriately measured by the same indicators at different ages; that development may mean qualitative transformations as well as quantitative change.

Developmental theory has traditionally focused on individual maturation, with specific changes occurring in biological, cognitive, psychological, and social domains. Changes in each of these developmental domains are related to and influenced by each other as well as to the social contexts relevant in each phase of life.

Development from birth to adulthood takes place in increasingly complex and a widening array of social contexts. The relative impact of particular contexts may vary across the life-span. The family is an important context from birth. The peer group exists from early childhood, but becomes especially important in adolescence with, probably, lesser importance in adulthood. The school is a key social context from about age six, although increasingly a context at earlier ages in our society; school continues to play a role at least into later adolescence and often into young adulthood. The broader society is an important social context as well, with influence probably increasing over age until adulthood. With increasing age, each context becomes more complex in terms of the nature of relationships involved between individuals within contexts as well as the specific demands and challenges placed by particular context.

Developmental Changes in Adolescence

The following section will briefly describe some of the changes that occur in several developmental domains and social contexts during adolescence. These changes reflect what seem to be general developmental trends that have been identified by cross-sectional and longitudinal studies. There are, of course, variations in these trends reflecting specific individual characteristics and conditions. As will be shown, individual differences in developmental trajectory, relationships between developmental domains, and continuity or discontinuity within and between social contexts are a major aspect of the developmental

perspective on psychopathology. This perspective requires the study of (a) normative developmental capacities that can serve as either intrapersonal sources or liabilities, (b) the contexts in which they develop, and (c) the transactional processes that influence later functioning.

Biological change. During adolescence, changes are seen in each of the areas of life-long biological change: the brain, somatic development, and physiological change (Petersen & Taylor, 1980). Puberty is thought to mark the completion of brain development. Although recent evidence suggests that changes occur in the brain over life, two processes seem to become essentially complete during puberty: the development of neural pathways and the process of myelinization of nerve fibers integrating the two hemispheres (Yakovlev & Lecours, 1967). Puberty also marks the completion of growth in size, the attainment of mature body shape, and the attainment of reproductive potential, in normal individuals (Petersen & Taylor, 1980).

Cognition. During adolescence, a major change in cognitive development often takes place (e.g, Inhelder & Piaget, 1958; Keating, 1980). During this phase of life, young people are first able to think abstractly or "think about thinking." It is important to note that although abstract thinking typically first appears during adolescence, many adolescents (or adults) never manifest the capacity to think abstractly, at least as assessed by the standard measures of abstract thinking or formal operational thought (Elkind, 1974).

Psychological development. Adolescence is marked by an increase in self-esteem from the beginning to the end of adolescence (Damon & Hart, 1982), with some evidence that there might be a specific dip in self-esteem during early adolescence (Simmons et al., 1973). Studies have also found that over these years individuals decrease their attributions to self for responsibility for failure, while attributions for success remain stable over these years (Harter, 1985).

Moral reasoning capacities advance over adolescence from conventional stages (involving mutuality, adherence to rules, and the social order) to post-conventional stages (involving individual responsibility, responsibilities of the larger society, and with the relationship between the two) (cf. Hoffman, 1980). It is important to note that this model for moral reasoning is primarily representative of the development of males; a model for moral reasoning that focuses more on interpersonal relationships typifies female development (Gilligan, 1982). Also note that moral behavior typically lags behind moral reasoning, and there is some evidence that emotion intervenes to produce this discrepancy; that is, emotional reactions to a situation may cause one to behave at a moral level lower than one is capable of cognitively (Gilligan & Belenky, 1982).

Ego development also advances over adolescence from a self-protective stage (the second stage in Loevinger's paradigm) through a conformist stage and onto a more self-aware stage (Josselson, 1980; Redmore & Loevinger, 1979).

Social development. The nature of children's interactions with and relationships to others shows both continuity and change as they become adolescents. The changes include a greater involvement with peers, often accompanied by a greater emphasis on aspects of intimacy and shared thoughts and feelings as the basis of friendship in addition to shared activities and interests (Hartup, 1983). Conformity to the peer group appears to peak during early adolescence while anxiety about friendship seems to increase in intensity during middle adolescence (Costanzo & Shaw, 1966). Certain individual differences, however, such as peer status seem to be stable over time, particularly for children who are "rejected" (Coie & Dodge, 1983). Recent evidence from studies of preadolescents show that this stability is maintained despite changes in the peer group (Coie & Kupersmidt, 1983), and may be more a result of individual behavior than "reputation" (Dodge, 1983).

Context Changes in Adolescence

Family. The changes that occur during adolescence may include changes in relationship (or interactions between family members) as well as structural changes within the family--both of which influence further development. For example, patterns of communication and family decision making seems to change as boys advance through puberty (Steinberg, 1981; Steinberg & Hill, 1978). As adolescents become physically mature and involved in a variety of more challenging environments, they have increased needs for autonomy (cf. Conger & Petersen, 1984). These changes often

require transformations in adolescent-parent relationships (e.g., Papini & Datan, 1983). Parents who continue to be supportive during these changes and can accommodate by changing their own interactions with their adolescent children feel better about themselves and have adolescents who are better adjusted (Coopersmith, 1967; Elder, 1962, 1963; Rosenberg, 1965).

Besides having to deal with developing children, however, families are also developing and may be going through additional changes (e.g., children being born or, more typically, leaving the household). Parents themselves are often faced with their own developmental issues in terms of career, relationships, and personal well-being (Aldous, 1978; Chilman, 1968; Hill & Mattesich, 1979; Vaillant, 1977).

Peer groups. Over adolescence, the peer group increases in size and complexity (cf. Crockett, Losoff, & Petersen, 1984). More time is spent with peers compared to childhood. Although groups in preadolescence are generally large and gender based, by middle adolescence peer friendships are more likely to include heterosexual or romantic pairs (Dunphy, 1963).

The nature and meaning of peer contact becomes more differentiated into "classmates" and "friends." By adolescence, more time is spent (and enjoyed) with friends out of choice rather than with classmates (Csikszentmihalyi & Larson, 198). Greater mobility and availability of groups, clubs, and organizations also increases opportunity for contact with a greater variety of age-mates, in a wider array of different social settings.

Schools. A major change in the school context appears during early adolescence when many young people move from elementary school to junior high or middle schools (Schulenberg, Asp, & Petersen, 1984). Whereas elementary schools typically involve a single classroom, one teacher, and a single set of classmates, junior high or middle schools typically involve multiple classrooms with multiple teachers and multiple sets of classmates. Research has found that the transition to these more complex school settings challenges the coping resources of young adolescents (e.g., Blyth, Simmons, & Carlton-Ford, 1983). General outcomes involve a decrease in school grades, which in our research we linked to more difficult grading practices on the part of teachers, and decreased perceptions of control on the part of young adolescents. In our research, we have found that two transitions during the early adolescence period are related to poorer outcomes than is a single transition and that an earlier transition, prior to sixth grade, is worse than one the next year, prior to seventh grade (Schulenberg et al., in preparation).

The school structure also affects the nature of peer group interactions by determining which peers are available for a young adolescent to interact with. Particularly important is the nature of age groupings in the school, producing a "top-dog/bottom-dog" phenomenon in which the oldest age group has greater status and the younger age group as decreased status. These arrangements produce several measurable effects on physical violence in the school, drug

and alcohol use, sexual behavior, and self-esteem (Blyth, Hill, & Smith, 1981).

Broader society. Although too little research has focused on the impact of the broader society on adolescents, we can observe the dramatic impact that media has through the various messages that are sent to adolescents about what clothes to wear and which kinds of soda to drink, among other behaviors. Evidence for the powerful nature of these messages has been documented in some specific instances; for example, the effects of advertising on cognition (Linn et al., 1982) and effects of body images portrayed relative to boys' and girls' self-images of their bodies (Faust, 1983).

Summary. At the heart of contextual changes are the changing nature of expectations and demands placed on the adolescent, due in large part to changes in the adolescent's size, appearance, and behavior. These changes may be considered as conditions for either crisis or challenge, invoking stresses that undermine development, or resources and opportunities for growth. In any case, these changes often involve an expectation of greater individual "responsibility" for behavior (Petersen & Spiga, 1982).

At the same time, the various developing capacities of adolescents allow greater potential impact on the environment and on their own development. There is a greater ability to draw upon one's own resources (which in most cases are expanding), and to draw on resources from the environment in order to "fit in" and maintain some level of psychological well-being. Indeed, the

concept of "nitch-picking" (Scarr, 1983) becomes increasingly salient during adolescence, as adolescents begin to select their own nitches. Thus the study of development involves examining how an individual deals with changing environmental expectations and demands, and how individual characteristics and capacities, previous experiences, and particular contextual conditions influence this adaptation.

Attempts to predict relative "success" or "failure" in developing adaptive capacities thus requires several considerations. First, both individual capacities and contextual factors must be taken into account. Individual factors should include (1) capacities and characteristics that may be essential for successful adaptation at a particular age, and (2) characteristics that enhance or prevent acquisition of further adaptive skills (that might be important later in life), either through its effect on individual ability (e.g., extremely low IQ, congenital handicaps) or its effects on relevant social contexts that in turn influence the individual (e.g., difficult temperament in infants putting stress on the parent-child relationship; aggressive behavior in children alienating peers and teachers). Contextual factors should include conditions and events (in all relevant settings) that may be stressful and supportive, assessing the availability of resources and opportunities for challenge and growth as well as failure and maladjustment.

Second, capacities, conditions, and their interactions must be followed across time to examine individual differences in

developmental trends and the conditions under which these differences arise. The examination of adaptational capacity as a developmental outcome has been more often studied in terms of one aspect of adaptational "failure"--the presence of psychopathological symptoms. We now turn to a discussion of these "maladaptive" outcomes.

Psychopathology in Adolescence

Although we would like to present psychopathology as part of a normative, continuous construct such as emotional development, such constructs have been neglected in research (cf. Yarrow, 1979), except recently in infancy (Emde, 1979). This status of knowledge seems especially ironic given the frequent attributions about adolescent mood swings and emotional changes. Except for one study which did find that there were more mood fluctuations among adolescents than among adults (Larsen et al., 1980), research on this topic is generally lacking.

Nevertheless, our conceptual frame assumes that there are continuous dimensions represented with specific aspects of psychopathology at one extreme. Although there are little data to support this view of psychopathology as the end of a continuum suggesting that too much of something (or frequency exceeding some thresholds) results in psychopathology, we and others do find, for example, that relevant aspects of self-image, a normative construct, are lower in adolescents who also report specific kinds of psychopathology (Petersen et al., in press). We also find that adolescents reporting significant episodes of depression and

anxiety are lower in those self-image scales involving psychopathology and emotional tone than are adolescents who report no such experiences of depression or anxiety.

Rather than present an exhaustive review of psychopathology during adolescence, three categories of psychopathology will be presented as the most common examples: anxiety, depression, and conduct disorders. The present review is based on a previous one by Craighead (in Petersen & Craighead, in press).

Anxiety

Anxiety is considered here to involve both apprehension and fear and involves emotional, behavioral, physiological, and cognitive components. There do appear to be developmental changes in anxiety with possibly greater frequency in adolescents as well as a changed form in adolescence relative to childhood (Chapman, 1974; Senn & Solnit, 1968). By middle adolescence, anxiety is more social situational and includes more abstract phobias, such as agoraphobia (Marks & Gelder, 1966). Anxiety appears to be two to three times more common in girls than in boys. Although little data are available on long-term stability of anxiety, the existing evidence does suggest that a subset of anxious children do become anxious adults, and a somewhat larger subset of anxious adolescents become anxious adults (Gersten, Langer, Eisenberg, Simcha-Fagen, & McCarthy, 1976). Most anxious adults were anxious adolescents (Pritchard & Graham, 1966).

Depression

There has been an explosion in recent years of research on depression in childhood and adolescence. In earlier literature, it was thought that depression could not exist in childhood or adolescence, and therefore the topic was ignored by researchers and clinicians. Recent research demonstrates that this conclusion was premature. Current data suggests that by late adolescence, three to five percent of individuals are diagnosable with severe depression, and twelve to fifteen percent of individuals are diagnosable with moderate depression. Several studies have found rates of mild to moderate depression in the twenty to thirty-five percent range, including our own study.

There are developmental changes in the occurrence and experience of depression as well. The Isle of Wight Study (Rutter et al., 1976) provides some evidence on the longitudinal course of depression. They found a one-hundred fold increase in clinical depression from about age ten to about age fifteen (although the incidence at age ten was very tiny). They also observed an approximately four-fold increase in milder forms of depression, including such characteristics as moodiness, over the same age span. Depression also appears to occur about two to three times more often in girls than boys by middle adolescence.

While more children experience feelings of depression as they get older, recent evidence suggests that those who experience clinical depression earlier in childhood are at greater risk for

more prolonged problems compared to those first experiencing depression at a later age (Kovacs et al., 1984).

Depression, like anxiety, has affective, cognitive, physiological, and behavioral characteristics. Recent studies have shown that attributional styles typical of depressed adults are also found in depressed children. It is noteworthy that depressive attributional style is more typical of females than of males, a finding replicated now in many studies including two involving adolescent subjects. I also note the very recent findings by Craighead and his colleagues (1984) that when diagnostic categories of anxiety are differentiated from depression, this specific attributional style is typical only of subjects in whom anxiety is found. Depressed subjects manifest this attributional style only if they are also anxious.

Conduct Disorders

Children and adolescents with conduct disorders provided an interesting comparison to those with anxiety and depression. For one thing, this diagnosis is three times more likely for boys than for girls (Graham, 1979). In addition, the longitudinal course of conduct disorder is quite distinct from that seen with anxiety or depression. Conduct disorders typically are manifested early, especially once youngsters begin school. Children manifesting conduct disorders in middle childhood are likely to become adolescent delinquents and anti-social adults.

Several longitudinal studies have pointed to aggressive and antisocial behaviors as risk factors for a variety of adjustment

problems. Aggressive tendencies have been conceptualized and assessed in a variety of ways, including parent and teacher reports of "externalizing" problems, teacher and peer ratings of aggressive behavior, and sociometric ratings of peer rejection. Several findings from studies of peer assessments should be noted. First, peer ratings show that some children are high on both aggressive and withdrawal behavior, and that these children are at greater risk for later maladjustment than those high on aggression or withdrawal (Ledingham et al., 1984). Second, although peer rejection is most often related to aggressive behavior, not all aggressive/antisocial children are rejected. Those who are aggressive/antisocial and who do not get along with peers seem to be at highest risk for poor adjustment later in life.

A More Integrated View

Although scholarly articles on psychopathology in adolescents typically consider each diagnostic category separately, recent evidence suggests that individuals often manifest more than one disorder. The extent to which individuals are likely to manifest more than one diagnosable disorder is something that deserves further examination.

In addition to research looking within psychopathologies, we need more research linking psychopathology with developmental changes. The meager body of research thus far suggests that there are some synergistic effects of less optimal development that leads to pathological outcomes. For example, in our own data, we found that high-anxious girls increasingly showed worse body image from

grade six through grade eight. We have several other findings showing similar links between psychopathological status and developmental change.

A recent study by Kovacs and colleagues (Kovacs & Paulaustkas, in press) is relatively unique in its simultaneous examination of developmental status and psychopathological status. They found that among depressed patients, those who were prepubertal when admitted manifested more chronic depression and more prolonged recovery from depression than those that were already pubertal at first admission. These results ran counter to Kovacs' hypotheses that disorder is precipitated by pubertal and cognitive change, as proposed by psychoanalytic theory and her interpretation of Piagetian cognitive development theory. The results are more consistent, however, with a model for psychopathology based on the life-span developmental perspective. Kovacs and her colleagues acknowledge that early onset may reflect greater genetic or psychosocial vulnerability to depression, and that younger, less mature children may lack a "sophisticated repertoire of internal and external coping responses and external coping resources" that might help resolve distress, thereby prolonging depression. Early onset may also reflect certain environmental conditions or changes that persist in the child's life, and may be indicative of the presence of stresses and/or lack of resources in the caretaking environment.

The Development of Psychopathology

Thus far, we've presented research results describing the phenomena of adolescence and of psychopathology during adolescence. But how does psychopathology develop? In research pertinent to developmental psychopathology, there are striking similarities in developmental pathways across pathological outcomes. An integrated theory based on the existing evidence can be sketched out.

The existence of some consistent findings across studies and across related variables leads to the proposal that there is a common developmental pathway for several adolescent problems including both physical illness and mental illness as well as behavioral problems as diverse as drug abuse and eating disorders. Although no comprehensive model can fit precisely for all specific outcomes, this one does appear to fit the existing data for specific problems by simply dropping some of the pathways and components. This model is based on the various assumptions of life-span developmental theory described earlier. The development of psychopathology is complex and involves several key features.

Coping

The individual's capacity to cope with the new challenges involved at successive phases of development plays a key role in whether the outcomes are healthy or pathological. Coping has been an elusive construct to define and operationalize. By coping capacity we mean the individual contribution to the interaction between individual and situation. The degree of challenge in the situation constitutes the situation side of the equation. The

resulting coping performance is the interaction of coping capacity and extent of challenge in the situation. Adaptive coping (and optimal development) results from a good fit or balance between the power of the person and the power of the environment. This is very close to the goodness of fit concept originally proposed by Thomas and Chess (1977) with regard to temperament, but extended to a variety of aspects of development by the Lerners (e.g., J. V. Lerner, 1983).

The importance of fit between developmentally relevant contexts and individual coping capacity may be seen in Werner's longitudinal study of development. She and her colleagues (e.g., Werner & Smith, 1982) found that constitutional factors (e.g., temperament) played a major role in outcomes early in development, school and cognitive factors were key to adjustment during middle childhood, and interpersonal as well as "self" factors were involved with adjustment during adolescence. Relationships with parents were important throughout these age periods, but the specific ways in which they were important changed in nature over time. What is important about this example is that at each phase of life, the factors in the individual that are important seem to be those that are brought out by the social contexts at that phase. Very early in development, social contexts are less important, except for the family. Constitutional factors, such as temperament, are important for family interactions, however. During middle childhood, as children begin to attend school, the ability to achieve becomes critical. In adolescence, when the peer

group and other aspects of that social context become crucial, the ability to develop interpersonal relationships as well as to feel good about oneself become dominant factors.

Health, in this model, consists of the extent to which adaptive coping takes place. Some coping will occur in any case, but it may be maladaptive and involve "miscoping." Maladaptive coping or miscoping is less likely to facilitate healthy coping in subsequent phases of development. For example, a young adolescent overwhelmed by the challenges of a new school structure with the transition to a junior high school may become depressed. Although components of this depression, such as withdrawal, may enable the young person to maintain some sort of equilibrium, the inability to cope adaptively with the school change is likely to lead to simultaneous difficulties in other areas such as with peer relations or with parents, and is likely to make more difficult development in subsequent stages.

Another example may be seen in the middle adolescent, about fifteen to sixteen years of age, who finds the demands of cliques and pressures to date increasingly stressful and begins to drink alcohol as a way of coping with these social situations. Again, the drinking coping mechanism can enable this young person to continue to go to parties and interact socially, but it is unlikely to enhance social development or other aspects of development during middle adolescence, and in addition is likely to make subsequent development more difficult.

Although general pathways, or common underlying constructs such as "social disability" (Vance, 1973) have been proposed in the past, it is only quite recently in the emerging field of developmental psychopathology that the need to examine patterns of adaptation has been proposed integrating both "outcomes" and "processes" from a variety of theoretical and empirical bases (Garber, 1984; Greenspan, 1981; Greenspan & Porges, 1984; Sroufe & Rutter, 1984; Waters & Sroufe, 1983). Although others have stressed the need to consider competent, healthy functioning, particularly as it relates to specific environmental demands and resources (e.g., Sundberg, Snowden, & Reynolds, 1976), these approaches have typically addressed developmental issues only superficially.

Greenspan (Greenspan, 1981; Greenspan & Porges, 1984), Sroufe (Sroufe, 1979; Waters & Sroufe, 1983) and their colleagues have outlined adaptational models of development (focused primarily on infants and young children) that focus on the ability of the individual to organize its behavioral capacities to engage the environment, and on the ability of the environment to foster these abilities. There are different "developmental issues" that need to be addressed that both influence the development of these capacities, and can serve as indicators of current capacities. Both Greenspan and Sroufe stress that the manner in which individuals address developmental issues at one point in time influences how later issues may be addressed. Sroufe, in particular, argues that there is coherence in individual

development in terms of adaptational capacity that may not be reflected in behavioral isomorphism across time (Sroufe, 1979). Rather, it is the coping process that is more enduring in the individual.

Regressive Coping

Some ways of coping with contextual or maturational demands are regressive and have serious consequences for future development. Baumrind (Baumrind & Moselle, in press) has developed this idea well in a recent paper focused on drug abuse during adolescence. She describes three consequences of maladaptive methods of coping such as that represented by drug abuse. Such regressive methods involve developmental lag, frequently involve specific developmertal damage, and typically include psychosocial maladjustment. Although Baumrind was focusing particularly on drug abuse, her conceptualization contributes to the notion that there is a common developmental pathway, since almost all of what she says seems applicable to many other adolescent problems as well.

Baumrind specifically identifies six ways in which these regressive methods of coping produce developmental lag: (1) by obscuring the differentiation between the context of work and the context of play; (3) by promoting a false consciousness of reality; (3) by reinforcing egocentrism; (4) by enabling the adolescent to avoid realistic confrontation of environmental demands; (5) by consolidating cultural relativism and idealism of adolescents; and (6) by masquerading as an emancipatory effort.

Although not all regressive ways of coping may involve specific developmental damage, Baumrind does propose such damage for drug abuse. In particular, she identifies the amotivational syndrome that is associated with marijuana use. Some forms of substance abuse may also involve actual physiological or brain damage. Since developmental damage is quite serious, it is extremely important that we begin to identify the ways with various problems that this might occur.

Psychosocial dysfunction may be seen in escapism, egocentrism, an external locus of control, and alienation and estrangement. Specific forms of psychopathology are also appropriate for this list, particularly both depression and anxiety.

Biological Substrate

This model assumes that at least some disorders involve a biological, particularly genetic, component. Such a component is likely to provide for specificity of disorder, particularly regarding the type and severity of the disorder. For example, an adolescent probably will not develop schizophrenia without the genes establishing such a potential. Since the genetic component for psychopathology is somewhat controversial, a less controversial example may be useful. There is general agreement that diabetes has a biological component to its etiology. It is less common, however, to talk about the environmental aspects that permit, elicit, or enable diabetes. Recent epidemiological research suggests that a major time for the initial incidence of diabetes is during early adolescence. This observation led to hypotheses about

the role of puberty in the initiation of diabetes. More recently, however, researchers have noted two other increases in the incidence of diabetes, one at about age six and a second smaller one at age three to four. In viewing this total set of ages, it has occurred to some investigators that beginning school, or changing the school environment might provide sufficient stress to individuals with the biological potential to stimulate the onset of diabetes.

Another example of the role of a biological substrate, as well as the specific stimulating context, may be seen with alcoholism. One reason that alcoholism is seldom seen in childhood is that most children are not given alcoholic beverages. Individuals who do not drink alcohol are very unlikely to become alcoholic. Infants born to alcoholic women, in contrast, can show all the signs of alcohol problems, including withdrawal symptoms. The context, therefore is an essential part of the appearance or the manifestation of a biological potential.

Individual Eliciting Factors

We might identify several characteristics of individuals that serve to elicit differential manifestation of problems or psychopathology. One such individual factor that would seem to be extremely important is that of gender. In the earlier review of psychopathology, we noted that depression and anxiety are two to three times more common in girls than in boys. In contrast, conduct disorders are more common, in similar ratios, in boys than in girls. Although the precise factors leading to these gender

ratios are not clearly known at present, gender is clearly an important factor and the various existing hypotheses need thorough investigation. A major gender difference not noted earlier is that most any kind of problem or psychopathology is more prevalent during childhood in boys than in girls, whereas by middle adolescence almost all ratios seem to reverse except for personality and schizophrenia disorders (Eme, 1979; Gove & Herb, 1974; Rutter, 1977; Werner & Smith, 1982).

Elder's research provides some specific evidence for gender differences for processes relating to gender both in children and in parents. For example, he found that attractiveness played a role in child abuse in girls but not in boys (Elder, Nguyen, & Caspi, in press). In another study, Elder found that hostile fathers, but not mothers, engaged in arbitrary behavior toward their children despite the child's behavior. Problem behavior in the child, in contrast, elicited arbitrary behavior even from affectionate fathers (Elder, Caspi, & Nguyen, in press). No such differences were seen among mothers.

Eliciting Effects of the Social Contexts

Social contexts also appear to have differential potential to elicit specific outcomes in the individual depending on the fit between individual characteristic and features of the social context. The challenges of the social contexts need to be difficult for the individual and to require some coping. For example, school transitions are not difficult for everyone. On the other hand, the transition to junior high school is typically

difficult for most children, although more so for girls than for boys. The divorce of parents is another social context change that is generally difficult for young people, although in some cases it provides a maturity-enhancing opportunity. Again, there may be gender differences in vulnerability. Werner and Smith (1982) found that while permanent father absence and maternal employment was related to resilience among high-risk girls, the same conditions were destructive for boys.

Cumulative Process

Outcomes of one developmental phase become integrated into the maturation of the individual or change in the social context, or both, at the next developmental phase. Outcomes at an earlier phase may weaken the individual but not yet produce illness. The challenges of a subsequent phase may be the crucial one, the proverbial "straw that broke the camel's back" in terms of breakdown. For example, poor social competence has cumulative effects both within the family and within the peer group. There is also evidence that poor social competence within the family leads to poor social competence in the peer group. The individual is often unable to take advantage of crucial learning opportunities if he or she is unable to perform at an appropriate level. For example, young people who have not learned effective interpersonal communication within the family and with same sex peers at earlier stages of development are more likely to have trouble in romantic relationships. Another example found in both the Werner and Elder

studies is that problematic temperament early in development leads to more social difficulties and poor adjustment subsequently.

It is important to note, however, that specific stress can produce temporary distress, the distress being temporary given good constitution, stable family, and so forth. The persistence of problems is related to the continuation of poorer maturational outcomes and social contexts over time. For example, chronic poverty, or psychopathology in a parent are conditions that are likely to continue through the child's lifetime and to have cumulative effects.

Risk and Protective Factors

Garmezy's conceptualizations and research have been critically important to theorizing about developmental psychopathology. Indeed, his work in identifying both risk factors and protective factors strongly suggested the existence of common developmental pathways. In a recent review, Garmezy (in press) identified several risk factors that seem to predict a variety of poor outcomes. These include: severe marital discord within the family, low social status and poverty, large family size, a pattern of criminality in the parents or in the child, psychiatric disorder (particularly in the mother), and care of the child by local authorities at some point. Factors that have been identified as protective include psychological factors such as self-esteem, feelings of control, and a view of the environment as predictable and life as basically a positive experience; the ability to elicit positive responses from the environment (e.g., good temperament); a

close personal bond with at least one member of the family, preferably an adult member; and a positive school environment.

Stressful Life Events

Although the focus thus far has been on more enduring aspects of individual maturation and social contexts, stressful life events are clearly important as well. Indeed, the research on stressful life events is strikingly consistent with everything we have discussed thus far. For example, Elder (Elder, Nguyen, & Caspi, in press), in his examination of the effects of the Great Depression, found that the effects were greatest in fathers who were relatively explosive. The general effect on families was that they became discordant and chaotic, a finding similar to that seen in some families when a divorce takes place (Heatherington, Cox, & Cox, 1979; Wallerstein & Kelly, 1980). Fathers, with the stress of job loss or decreased income, became punitive and arbitrary toward their offspring. The family was characterized by increased irritability and an unstable pattern of behavior in the children. Finally, there were more and stronger effects in girls.

In general, specific environmental conditions, and specific life events can be interpreted as sources of stress, risk, or weakness or sources of opportunity depending on particular individual characteristics and previous environmental conditions.

Contextual factors are crucial during infancy and childhood in influencing how the individual organizes its cognitive, affective, motivational, and behavioral capacities to adapt to the social context. As the child approaches adolescence, however, individual

capacities and proclivities become more important in the "selection" of other contexts and experiences that may influence further development. Particularly during adolescence, individual characteristics and capacities play a more powerful force in producing their own (further) development (i.e., Lerner, 1982; R. Lerner & Busch-Rossnagel, 1981).

For example, while social support has been found to be an important mediator between stress and well-being, it may be the case that certain people are better at procuring (as well as perceiving and accepting) this support from others during times of stress. Likewise abusive parents are often characterized as "isolated" or lacking in social support. It has been suggested that a large proportion of these parents may lack the social skills needed to maintain support, and that the same underlying deficiencies also explain abusive behavior. Thus, while good relationships and social support are related to healthy psychological adjustment, it may be that the processes/capacities necessary to establish and maintain good interpersonal relationships are at the core of adaptive functioning and psychological well-being.

Summary

Developmental factors are important to psychopathology. Adolescence, in particular, involves several changes that challenge the individual, both in the social contexts during this age and in individual maturation. Whether the adolescent is able to cope adaptively and enhance subsequent developmental outcomes or copes

maladaptively and jeopardizes future developmental outcomes depends on previous maturation in the individual as well as the nature of previous challenges presented and resources provided by social contexts, together with the nature of the fit between the current challenges and the individual's resources for coping.

This model for the interaction between changing social contexts and changing individual maturation constitutes a common developmental pathway for the diverse set of physical and mental illnesses as well as less serious problems occurring during adolescence. Not all features of the model are appropriate for all developmental outcomes, yet the existing research suggests enough similarity in these pathways to justify the proposed model.

The model is consistent with those proposed previously by Piaget for cognitive development and by Erikson for psychosocial development except that it is extended more broadly across several developmental domains and includes the whole spectrum of outcomes. Such a complex model is not likely to be tested statistically because too many variables are involved. The basic model can, however, be fit to specific outcomes such as adolescent depression or eating disorders. In addition, researchers seldom focus on all the social contexts that might be involved, but instead focus on one or maybe two. Finally, developmental aspects are seldom investigated across all domains simultaneously but one or two specific domains may be examined. Verification of the model does not require simultaneous examination in all developmental domains, in all social contexts, and in all outcomes. Support for the model

requires replication across these various kinds of variables, and in a number of studies.

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